

LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A purified protein having desaturase activity, and comprising an amino acid sequence selected from the group consisting of:
 - (a) an amino acid sequence as shown in SEQ. ID NO. 4;
 - (b) an amino acid sequence that differs from that specified in (a) by one or more conservative amino acid substitutions; and
 - (c) an amino acid sequences having at least 60% sequence identity to the sequences specified in (a) or (b).
2. (Original) An isolated nucleic acid molecule encoding a protein according to claim 1.
3. (Original) The isolated nucleic acid molecule of claim 2, comprising a sequence as shown in SEQ ID NO: 2.
4. (Original) A recombinant nucleic acid molecule, comprising a control sequence operably linked to the nucleic acid sequence of claim 2.
5. (Original) A cell transformed with the recombinant nucleic acid molecule of claim 4.
6. (Original) A cell transformed with the recombinant nucleic acid molecule of claim 4 and a nucleic acid molecule selected from the group consisting of:
 - (a) a nucleic acid molecule as shown in SEQ ID NO: 1; and
 - (b) a nucleic acid molecule that has 60% sequence identity to the nucleic acid molecule shown in (a).

7. (Original) The cell of claim 5, wherein the cell is a plant cell.
8. (Original) An isolated nucleic acid molecule that:
- (a) hybridizes under low-stringency conditions with a nucleic acid probe, the probe comprising a sequence as shown in SEQ ID NO: 3, and fragments thereof; and
- (b) encodes a protein having desaturase activity.
9. (Original) A desaturase encoded by the nucleic acid molecule of claim 8.
10. (Original) A recombinant nucleic acid molecule, comprising a promoter sequence operably linked to the nucleic acid molecule of claim 8.
11. (Original) A cell transformed with the recombinant nucleic acid molecule of claim 10.
12. and 13. (Cancelled herein)
14. (Original) An isolated nucleic acid molecule that:
- (a) has at least 60% sequence identity with a nucleic acid sequence as shown in SEQ ID NO: 3; and
- (b) encodes a protein having desaturase activity.
15. (Cancelled herein)
16. (Amended) A nucleic acid molecule identified by ~~the a method of claim 15~~ comprising:

_____ (a) hybridizing the nucleic acid sequence to at least 10 contiguous nucleotides of a
sequence as shown in SEQ ID NO: 3; and

_____ (b) identifying the nucleic acid sequence as one that encodes a desaturase.

17. (Cancelled herein)

18. (Amended) A desaturase encoded by the nucleic acid molecule of claim ~~15~~16.

19. through 27. (Cancelled herein)
